



TECHNICAL AND COMPLIANCE COMMITTEE

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ANNUAL REPORT ON THE COMMISSION VMS

WCPFC-TCC18-2022-RP01

16 September 2022

Paper prepared by the Secretariat

Purpose

1. The purpose of this paper is to present the Annual Report of the Commission VMS for the consideration of TCC18.

Introduction

2. The Annual Report for the Commission VMS is prepared in accordance with the VMS SSPs requirements paragraph 7.3.9 and 7.3.10. It also provides a report in response to the WCPFC18 task that the Secretariat to provide further information in the VMS Annual Report on the status of implementing VMS SWG recommendations
3. The paper is structured as follows:
 - Background and Introduction
 - SLA with FFA
 - Contracts with MCSPs
 - Commission VMS database
 - List of WCPFC Approved MTUs/ALCs
 - Update on FVT, MAR GE, MAR GE V2 and MAR GE V3 phase out
 - VMS Audit Report
 - Manual Position reporting
 - CCM access to WCPFC VMS data including related reports
 - Users of WCPFC Trackwell System and Provision of High Seas VMS Data in support of MCS Activities
 - VMS Reporting Status tool
 - Reporting on Secretariat processes to identify and follow-up on VMS reporting issues
 - Update on Secretariats work to facilitate electronic (online) submission and processing of new and updated VTAFs
 - Security and Integrity of the Commission VMS
 - Direct/simultaneous VMS reporting by vessels/ALCs reporting to the WCPFC VMS.
 - Secretariat observations on WCPFC VMS reporting gaps
 - Review of VMS implementation by applicable CCMs under the CMS 2013 - 2020
 - Recommendations

Background and Introduction

4. Article 24(8) of the Convention obliges each Member of the Commission to require its fishing vessels that fish for highly migratory stocks on the high seas of the Convention Area to use an ALC/MTU which meets agreed WCPFC Standards, Specifications and Procedures, while in these areas. To implement this requirement, the Commission has adopted CMM 2014-02 Commission Vessel Monitoring System Conservation and Management Measure, a set of Standards, Specifications and Procedures (SSPs) which were initially approved in 2008 (WCPFC5) and that were most recently modified in 2021 (WCPFC18), and an updated set of Standard Operating Procedures (SOPs) were approved in 2021 (WCPFC18).
5. Additionally, in 2012 (WCPFC9) the Commission adopted a Statement of Purpose and Principles for the Commission VMS. The stated purpose of the Commission VMS is “to cost-effectively monitor the activities of fishing vessels authorized by flag States to fish for highly migratory fish species in the Convention Area in areas beyond jurisdiction of the Flag State. Data collected by the Commission VMS will be securely stored and used by the Commission and its Members, Cooperating Non-Members, and Participating Territories (CCMs) to achieve compliance with Conservation and Management Measures (CMMs), fisheries scientific analysis and sound fisheries management decision-making in the Convention Area.”
6. The Commission VMS primarily covers high seas waters of the Convention Area. WCPFC9 agreed to a decision related to the application of the Commission VMS solely to waters under the jurisdiction of Members and to complement and support Members’ national VMS. Since the “Flick the Switch” proposal was approved at WCPFC9 sixteen CCMs – have provided letters of notification for the Commission VMS to cover their EEZ.
7. The approved structure of the Commission VMS system allows vessels to report to the WCPFC through two ways: i) directly to the Commission VMS, or ii) to the WCPFC through the FFA VMS. There are several contracts that the Secretariat maintains to facilitate the necessary arrangements for the Commission VMS. These are described in the succeeding paragraphs .

Service Level Agreement with FFA

8. Paragraph 7.3.3 of the SSPs requires, in part, the Secretariat to develop and manage a service level agreement (SLA) with the FFA for provision of VMS services. This SLA was signed by the Secretariats of the WCPFC and FFA in early December 2008, and the Commission VMS became operational in April 2009. VMS service is provided through the Service Level Agreement with FFA and since 30 June 2016, the service provider has been TrackWell.
9. The Secretariat has noticed occasional VMS reporting anomalies whereby MTUs may have been incorrectly matched to vessels within the Commission VMS and has been working with CCMs to address these anomalies.
10. Since early 2020, the FFA Secretariat has enabled an *application programming interface* (API) technical solution so that the WCPFC Secretariat has automated access to the current list of FFA Good Standing vessels for cross checking purposes and use in the online VMS Reporting Status tool.

11. The Secretariat presently has no matters of note to raise for TCC's attention with respect to the Service Level Agreement with the FFA.

Contracts with Mobile Communications Service Providers

12. Paragraph 7.3.5 of the SSPs requires the WCPFC Secretariat to enter into, and to maintain, direct contracts with mobile communications service providers for the provision of position (and other) data from the MTUs/ALCs that are activated to report directly to the Commission VMS. For this purpose, the WCPFC Secretariat has contracts with:
 - SpeedCast (formerly Satcomms Australia) – for Inmarsat C, D+ and Faria watchdog Iridium services;
 - Collecte Localisation Satelites (CLS) – for Argos and Halios/Iridium services;
 - Vizada – an operational agreement for Inmarsat C DNID management; and
 - Addvalue – for Inmarsat BGAN MTUs
13. Although VMS Gateways are established with WCPFC Trackwell to support the receipt of VMS data, to date the Secretariat has not established Contracts with the following four Mobile Communications Service Providers:
 - MetOcean – for iTrac10101B (I Trac II) services;
 - Rom Communications – for RomTrax Wifi services;
 - SASCO – for BB3 and BB5 services;
 - SkyMate Inc. – for SkyMate I1500 and m1600 services; and
 - Orbcomm for IDP690 and ST1600.
14. This means that technically VMS transmissions can be received by WCPFC Trackwell, but the Secretariat presently does not have an arrangement to be charged for VMS airtime services from the relevant WCPFC Approved MTU/ALCs. To date any relevant charges for VMS activation and airtime from these MTU/ALCs have been covered by the relevant flag CCMs.
15. The following MCSPs provide direct/simultaneous reporting to their primary client and WCPFC VMS:
 - MetOcean – for iTrac10101B (I Trac II) services;
 - Rom Communications – for RomTrax Wifi services;
 - SASCO – for BB3 and BB5 services;
 - PTSOG Chinese Taipei
 - SkyMate Inc. – for SkyMate I1500 and m1600 services; and
 - Orbcomm (Australia) – for ST1600.
16. The Secretariat presently has no other matters of note to raise for TCC's attention with respect to the Contracts with Mobile Communication Service Providers.

Commission VMS database

17. Paragraph 2.8 of the SSPs requires the Secretariat to administer a Commission VMS database. It states that:

“For each fishing vessel required to report to the Commission VMS the flag CCM will submit all necessary data to complete its data file in the Commission’s VMS database. This data will include the name of the vessel, unique vessel identification number (UVI), radio call sign, length, gross registered tonnage, power of engine expressed in kilowatts/horsepower, types of fishing gear(s) used as well as the make, model, unique network identifier (user ID) and equipment identifier (manufacturer’s serial number) of the ALC that vessel will be using to fulfil its Commission VMS reporting requirements.”

18. To facilitate the submission of necessary vessel tracking data for each fishing vessel required to report to the Commission VMS, the Secretariat has provided for flag CCMs use a guideline Vessel Tracking Agreement (VTAF) form. VTAF forms (MS Excel, pdf, word format) are available on the WCPFC website: <https://www.wcpfc.int/vessel-monitoringsystem>.

19. Some general statistics on the Commission VMS over time are provided in the following charts (Figures 1-3) below. Some summary information by flag reporting through different MCSPs is shown in Table 1 below. As of 31 July 2022, there were 2335 vessels that were considered to be activated to report to the Commission this represents 70% of all “Active” vessels on the WCPFC Record of Fishing Vessels.

Table 1. Number of vessels by CCMs activated to report through different MCSPs.

Flag CCM	Add-Value	FFA VMS	CLS	MetOcean Telematics	Rom Comm	SASCO	SkyMate	Orbcomm / Skywave	SpeedCast	Total
AU			2					2	32	36
CA			1	1	2	2				6
CN	3	296	63						69	431
CK		17								17
CW			7							7
EC		5								5
EU		5	2						17	24
FJ		52							1	53
FM		41								41
ID										
JP		94	62						349	505
KI		13							2	15
KR		62	62						2	126
LR										
MH		13								13
NR		20								20
NC									3	3
NI		1								1
NZ									2	2
PN		85	11						15	111

PH		41	231						7	279
PG		15								15
PF										
PW										
SB		12								12
SV		2								2
TH										
TO										
TW		103	241					33	198	575
TV		6								6
US		13	146				29		2	190
VU		27	37							64
WS										
TOTAL	3	923	865	1	2	2	29	35	699	2,559

Figure 1. New records of Vessel MTU activations by year as of 31 July 2022.

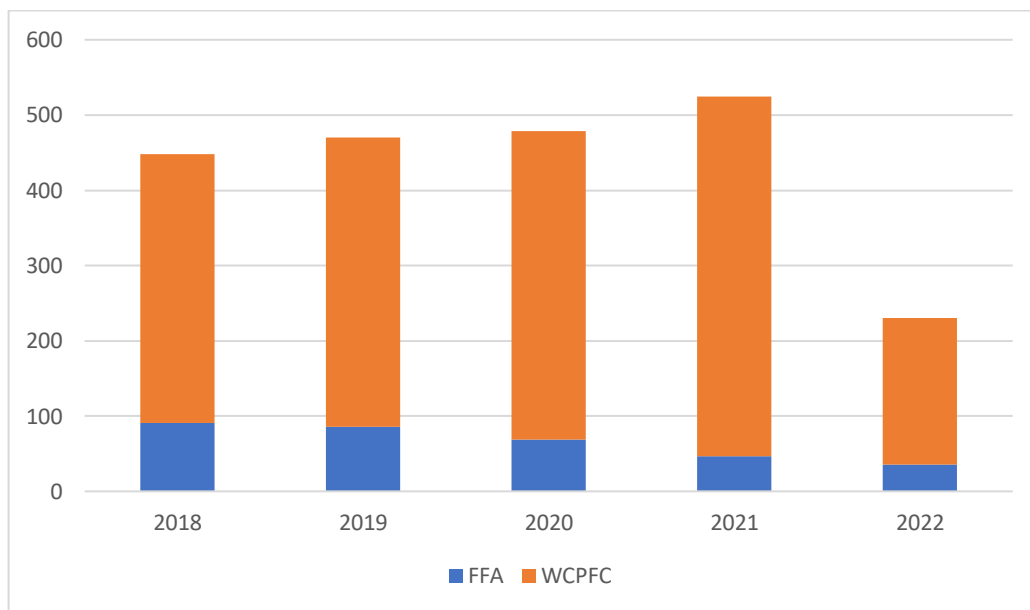


Figure 2. Number of VMS vessels reporting in the Convention Area against RFV, as of 31 July 2022.

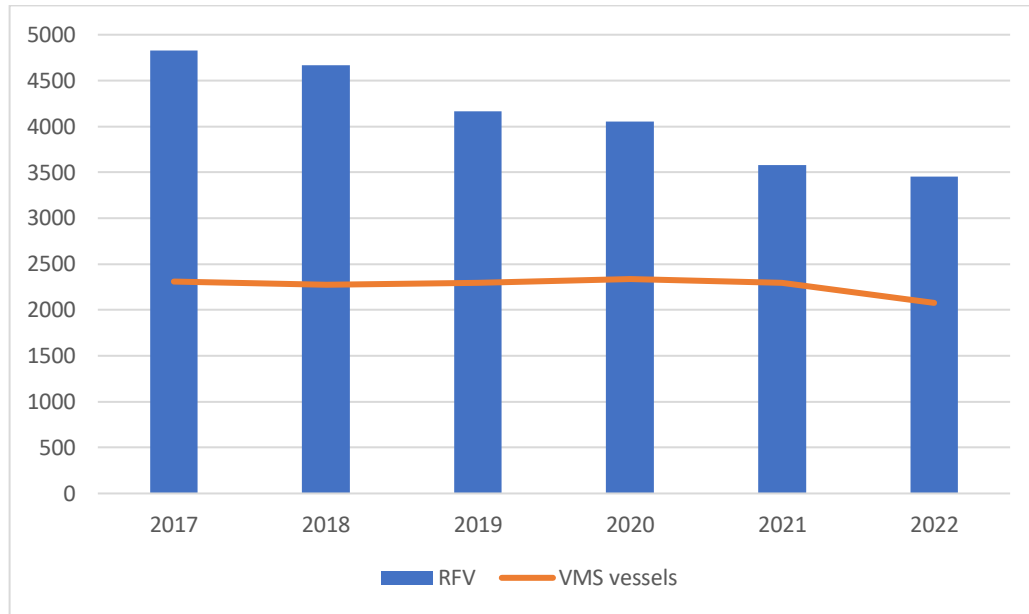
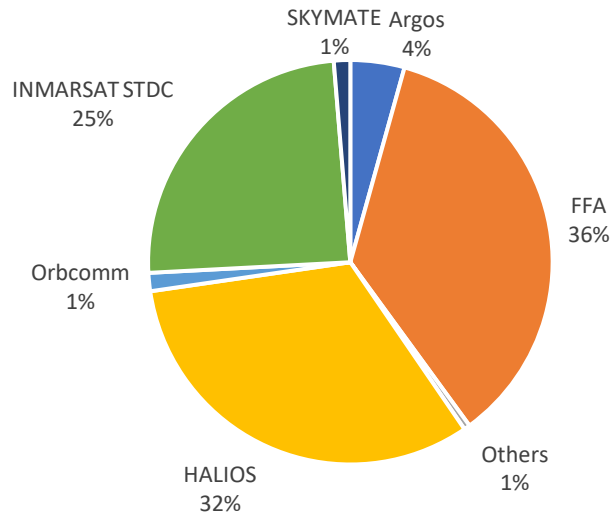


Figure 3. The percentage of vessels currently reporting by Channel on the Commission VMS as of 31 July 2022



20. Table 2 below lists the number of vessels with an “Active” status on the WCPFC Record of Fishing Vessels (Vessel count), information available to the Secretariat on count of FFA good standing status vessels (abbreviation: *FFA Good Standing Cnt*) and reported by the flag CCM as fished beyond its national jurisdiction (abbreviation: *Fished Cnt*).

Table 2. Summary of the number of vessels by flag for which the Secretariat has VTAF data (VTAF record Cnt) in 2021 and 2022 and received position reports in areas covered by the Commission VMS (VMS Tracked Cnt). As at 27 July 2021.

CCM	2021							2022			
	Vessel Count	AFA Received Cnt	Fished Cnt	Did Not Fish Cnt	VTAF Recorded Cnt	FFA Good Standing Cnt	VMS Tracked Cnt	Vessel Count	VTAF Recorded Cnt	FFA Good Standing Cnt	VMS Tracked Cnt
AU	54	54	7	47	36	0	39	51	36	0	35
CA	6	6	1	5	5	0	1	6	5	0	0
CK	22	22	18	4	6	21	19	18	6	17	16
CN	610	610	357	253	412	324	399	611	421	312	348
CW	9	9	1	8	8	2	3	9	9	0	1
EC	7	7	5	2	7	5	5	7	7	5	4
EU	92	80	10	70	23	7	11	73	23	5	10
FJ	69	69	23	46	13	55	27	69	13	51	17
FM	46	46	45	1	21	46	42	45	21	43	34
ID	27	27	0	27	0	0	0	13	0	0	0
JP	760	759	499	260	520	121	427	737	525	108	348
KI	13	13	13	0	9	12	13	13	9	13	13
KR	206	206	149	57	124	138	153	189	124	81	135
LR	12	12	0	12	4	0	0	9	1	0	0
MH	16	16	16	0	4	16	15	14	4	14	13
NC	22	22	0	22	3	0	4	18	3	0	3
NI	1	1	0	1	0	1	0	1	0	1	1
NR	21	0	0	0	4	21	21	21	4	21	20
NZ	4	4	2	2	3	1	4	3	3	1	3
PA	175	175	95	80	101	108	123	165	102	101	105
PF	84	84	0	84	0	0	0	87	0	0	0
PG	20	20	13	7	7	14	13	15	7	15	14
PH	344	344	282	62	257	47	237	351	257	42	208
SB	9	9	3	6	0	8	8	9	0	8	8
SV	4	4	2	2	3	2	2	4	3	2	2
TH	5	5	0	5	1	0	0	5	1	0	0
TO	1	1	0	1	0	0	0	1	0	0	0
TV	8	8	7	1	3	7	7	7	3	7	7
TW	672	672	497	175	591	120	459	650	594	111	446
US	210	210	180	30	179	24	189	194	179	13	174
VU	72	72	66	6	61	33	65	75	62	28	58
Grand Total	3,581	3,567	2,291	1,276	2,405	1,133	2,286	3,468	2,422	999	2,023

21. Table 3 below provides a count of vessels on the RFV by vessel type that report to the Commission VMS directly or through the FFA VMS.

Table 3. Count of vessels on the RFV by vessel type that reported to the Commission VMS, through the FFA VMS and directly activated to report to the WCPFC VMS as of 31 July 2022.

Vessel Type	2017		2018		2019		2020		2021		2022	
	Direct	FFA	Direct	FFA	Direct	FFA	Direct	FFA	Direct	FFA	Direct	FFA
Longline	632	800	594	807	572	808	1,232		1,217		1,138	505
Purse Seine	80	253	78	250	84	256	88		84		63	248
Fish Carrier	99	153	93	149	88	159	131		178		163	122
Bunker		29		29	1	32	5		8		6	33
Troll	12	1	7		6		18		22		20	
Pole & Line	44	26	43	24	43	24	50		49		42	22
Other	131		122	1	127	1	134		136		129	
Total	998	1,262	937	1,260	921	1,280	1,658	0	1,694	0	1,561	930

List of WCPFC Approved MTUs/ALCs

22. The Satlink ELB 2020 has been added through the intersessional process in the VMS SSPs to the List of WCPFC Approved MTUs/ALCs. The MTU Oriola is currently undergoing testing and review. On 1st August 2022 SRT advised the Secretariat that they have recommenced testing with TrackWell of an updated VMS-100Si placed on two vessels operating in HSP#1 trial is ongoing. The complete list of approved MTUs as of 31 July 2022 is appended in Annex 1.

Update on FVT, MAR GE, MAR GE V2 and MAR GE V3 phase out

23. At WCPFC14, the Commission agreed that “CCMs shall ensure that vessels flying their flag do not purchase, install, or transfer the following VMS units: FVT, MAR GE, MAR GE V2, and MAR GE V3 (all Argos units) and that they be removed from the WCPFC approved ALC/MTU list. The Commission further agreed that existing units on vessels shall be allowed to continue to operate for 5 years (until 1 January 2023). CCMs whose vessels use these models shall provide a list of vessels that are using the units to the Secretariat and shall update the list annually” (WCPFC14 Summary Report paragraph 424).

24. As of 31 July 2022, the number of FVT, MAR GE, MAR GE V2, and MAR GE V3 MTUs has reduced to 141 units on vessels flagged three CCMs.

Table 4: Analysis of the current status of the phase out by CCMs of FVT, MAR GE, MAR GE V2 and MAR GE V3 ALC units – as of 31 July 2022

CCM	Vessel Type	Count of vessels on the RFV with an “active” MTU unit of this type (count of vessels CCM advised “fished” in 2021)			
		FVT	MAR GE	MAR GE V2	MAR GE V3
China	Longliner				11 (0)
Japan	Longliner		10 (2)	38 (4)	3 (1)
Philippines	Fish Carrier				1 (1)
Philippines	Support Vessel		2 (2)	36 (30)	39 (35)
	total = 141		12	74	54

VMS Audit Report

25. Paragraphs 2.9 and 2.13 of the SSPs state that CCMs are to carry out a periodic audit of a representative sample of installed ALCs. The results of these audits are to be provided to the Commission by CCMs in the Part 2 Annual Report to the Commission (WCPFC VMS SSPs 7.2.2). Since 2013, the WCPFC Secretariat has provided CCMs with an electronic facility to report their MTU audit inspection results as shown in Table 5 below.

Table 5. Number of MTU audits by type from 2016 to 31 July 2022.

MTU Type	2016	2017	2018	2019	2020	2021	2022
750VMS [Faria – Watchdog]	29	39	48	22	31	32	1
750VMS SB [Faria – Watchdog]	16	20	17	48	58	38	8
750VMS W/Vterm [Faria – Watchdog]	2	7	38	2			7
CLS TRITON [CLS OROLIA]	1	4	46	87	75	81	6
CLS TRITON ADV [CLS OROLIA]		9	35	140	145	234	29
ELB 2000 [SATLINK]					3		
ELB2004 [SATLINK]			2		1		
ELB2020 [SATLINK]						1	
FELCOM10 [Furuno]	7				1		
FELCOM12 [Furuno]	6	1	1				
FELCOM16 [Furuno]	217	237	201	171	128	110	1
FELCOM18 [Furuno]		1				3	
FELCOM19 [Furuno]	3	15	14	14	18	15	
iFleetONE [Addvalue]					1	5	1
JUE-95VM [JRC]	45	63	61	33	35	35	
LEO [CLS ELTA]	132	136	149	152	52	42	6
Sailor 3027D [Thrane & Thrane]	1	1	4	1	1	1	
Sailor 6140 [Thrane & Thrane]	114	119	205	185	143	127	2
Sailor 6150 [Thrane & Thrane]	37	74	92	80	84	85	2
SKYMATE I1500 VMS [SkyMate Inc.]		2	5	19			
SKYMATE m1600 [SkyMate Inc.]				9	8		
Skywave IDP-690 ORBCOMM/Skywave]			3	18	12	11	
Thorium TST-100 [CLS KENWOOD]	71	83	214	196	167	165	7
TT-3022D [Thrane & Thrane]	36	25	15	4	4	3	
TT-3026 [Thrane & Thrane]	4	3		1			
TT-3026D [Thrane & Thrane]	19	7	1				
TT-3026S [Thrane & Thrane]	53	20	20	22	12	4	
TT-3027M [Thrane & Thrane]	27	19	11	2		1	
TT-3027S [Thrane & Thrane]	1	2	3		1		
TT-3062D [Thrane & Thrane]		5	1				

** MTUs to be PHASED OUT BY JANUARY 2023

MTU Type	2016	2017	2018	2019	2020	2021	2022
MAR GE [CLS SERPE-IESM]	4		11	3	7	3	
MAR GE V2 [CLS MARTEC SERPE-IESM]	25	2	40	34	39	29	
MAR GE V3 [CLS MARTEC SERPE-IESM]	44	8	50	24	39	38	6

26. In 2021 there were 2274 vessels that reported to have fished beyond their national waters in the Convention Area. 416 of these have not had an MTU Audit Report submitted since 2011. The list of relevant ALC/MTUs is appended in Annex 2.

27. Of the vessels that have provided manual reports 30 of the vessels MTU have not been audited since 2016 as shown in table 6 below.

Table 6. Summary of vesesls that have provided manual reports and that have not submitted MTU audits as at 31 July 2022

Approved MTU Type	CHN	ECO	JPN	KOR	PAN	PHL	TWN	VUT	TOTAL
CLS TRITON [CLS OROLIA]				1					1
CLS TRITON ADV [CLS OROLIA]								1	1
ELB2004 [SATLINK]		1							1
FELCOM15 [Furuno]			1						1
FELCOM16 [Furuno]			13						13
FELCOM18 [Furuno]		1							1
JUE-75C [JRC]			1						1
JUE-95VM [JRC]			3						3
MAR GE V2 [CLS MARTEC SERPE-IESM]						1			1
Sailor 6140 [Thrane & Thrane]	1				1		1		3
TT-3022D [Thrane & Thrane]	1								1
TT-3026S [Thrane & Thrane]	3								3
Total	5	2	18	1	1	1	1	1	30

28. All CCMs that have vessels that were reported to have “fished” beyond its national jurisdiction in 2021 have carried out and reported MTU/ALC audit inspections from 2014 – 2020 for some of their flag vessels as shown in Table 7 below.

Table 7. List of flag CCMs and number of MTU audits undertaken, compared to the count of vessels that the flag CCM advised fished in the Convention Area beyond its flag CCMs jurisdiction during 2021 as at 31 July 2022

Flag CCM	Active on RFV in 2021	“Fished” in 2021	2016	2017	2018	2019	2020	2021	2022
Australia	54	7			2				
Canada	6	1		1	2	1	1	1	
China	610	365	348	303	305	315	315	281	21
Cook Islands	22	18	11	7	17	25	19	10	
Curacao	9	1		1		3	4		
Ecuador	7	5	2	3	5	4	5	3	
European Union	69	10	3	2	1	2	2		
Fiji	46	23	35	50	58		5	5	
Federated States of Micronesia	46	45	22	32	41	40	35	38	1
Japan	760	499	112	166	154	103	102	95	
Kiribati	13	13	13	14	14	9	7		

Flag CCM	Active on RFV in 2021	"Fished" in 2021	2016	2017	2018	2019	2020	2021	2022
Korea (Republic of)	206	146	30	63	85	123	58	123	6
Liberia	12			2		4	2	5	
Marshall Islands	16	13	10	8	11	17	12	12	
New Caledonia	22			4	5				
Nauru	21		3	4	9	11	16	22	
New Zealand	4	3	2	1	2	2	2	2	
Panama	175	95	18	9	12	7	13	7	3
French Polynesia	84								
Papua New Guinea	20	13		3	11	20	11	3	3
Philippines	344	281	135	31	236	208	266	244	34
Solomon Islands	9	3	4	9	11	9	8	8	
El Salvador	4	2	2	3	1	1	2	2	2
Thailand	5								
Tonga	1								
Tuvalu	8	7	5	12	2	5	5	5	
Chinese Taipei	672	495	17	34	160	177	128	134	
United States of America	210	174	100	108	113	139	24	37	6
Vanuatu	72	65	21	32	30	42	23	26	

29. Table 8 below provides a summary of the aerial surveillance, High Seas Boarding and Inspection and other remote MCS activities where Article 25 requests for investigation related to VMS violations were noted since 1 January 2016. In 2021 there was one instance of an investigation in progress relating to CMM 2014-02 04/

Table 8. Summary of outcome of flag CCM investigations of alleged infringements that were notified to WCPFC as Article 25(2) matters, based on aerial surveillance, HSBI or other remote surveillance based MCS activities (covering the period 1 January 2016 – 31 July 2022)

	Investigation IN PROGRESS		Investigation COMPLETED			Grand Total
	No infraction	Infraction - no sanction	Infraction - warning	Infraction - sanction		
Operational requirements for fishing vessels						
☐ CMM 2014-02 04						
☐ 2021	1	1	0	0	0	2
☐ CMM 2014-02 7d VMS SSPs 2.7						
☐ 2017	0	1	0	0	0	1
☐ 2018	0	2	0	0	1	3
☐ 2019	0	1	0	0	0	1
☐ CMM 2014-02 9a						
☐ 2016	0	11	0	1	5	17
☐ 2017	0	19	0	2	0	21
☐ 2018	1	26	2	4	3	36
☐ 2019	0	20	0	2	1	23
☐ 2020	0	1	0	0	0	1
☐ 2021	1	0	0	0	0	1
☐ CMM 2014-02 9a VMS SSPs 2.8						
☐ 2018	0	1	0	0	0	1
Grand Total	3	83	2	9	10	107

Manual Position Reporting

30. The Secretariat maintains a log of all vessels placed on manual reporting as required by the SSPs on VMS. The manual reports are also entered in the Commission VMS database as shown in Table 9 and Table 10 below.

Table 9. Number of vessels by flag that provided manual position report (August 2021 – 31 July 2022)

Flag CCM	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
China	3	2				10	5	3	9	5	6	6
European Union											1	1
Japan	1	1				1	1	2	1	1	1	
Kiribati						4						
Korea (Republic of)	2	1	1	1	2	6			3	1		
Nauru						2						
Panama	2											
Philippines	2	3	4	4	5	2		2	2			
United States									1			
Total	10	7	5	5	7	25	6	7	16	7	8	7

Table 10 below show the type of MTUs that reported manually in 2022 and in previous years.

Approved MTU Type	Comm System	2016	2017	2018	2019	2020	2021	2022
MAR GE	ARGOS		65	1,889				132
MAR GE V2	ARGOS		877	506	2,813	1,089	79	111
750VMS	FARIA_WATCHDOG	104	607	657	52	424	352	74
750VMS SB	FARIA_WATCHDOG	138	44	16	60	779	162	232
CLS TRITON	HALIOS	248	465	2,947	410	25	66	285
CLS TRITON ADV	HALIOS	1,040	3,732	5,663	3,457	5,060	2,215	1,662
LEO	HALIOS	9	864	664	838	581	621	268
Thorium TST-100	HALIOS	136	541	570	761	16,854	469	7,745
FELCOM15	INMARSAT STDC		48	211		3,241		50
FELCOM16	INMARSAT STDC	590	1,352	2,564	1,302	3,923	2,686	2,216
FELCOM18	INMARSAT STDC		1	1		27		50
JUE-75C	INMARSAT STDC			102				476
JUE-95VM	INMARSAT STDC		6	92	533	137	102	199
RSS405A	INMARSAT STDC		8				54	80
Sailor 3027D	INMARSAT STDC		44	264	424		60	245
Sailor 6140	INMARSAT STDC	1,490	1,341	6,106	1,886	4,460	1,897	5,740
Sailor 6150	INMARSAT STDC		224	65	76	4,887	734	146
TNL 7001	INMARSAT STDC	3	109	44		1	71	73
TT-3022D	INMARSAT STDC	428	215	160	96	4,443	12	136
TT-3026S	INMARSAT STDC	221	142	951	2	6,962		49
TT-3027S	INMARSAT STDC	62		2	89			84

Progress report on their continued work to address data gaps from VMS failure and to facilitate automatic integration of VMS manual reports into the Commission VMS. (WCPFC18 Summary Report para 282)

31. The Secretariat has set up automatic the integration of VMS manual reports based on the common North Atlantic Format (NAF). VMS manual report would be submitted by CCMs to the Commission VMS via email. Correctly formatted data received would then automatically be integrated into the Commission VMS.

32. The text in the box below provides a sample of a manual report in NAF format:

//SR//TM/POS//SQ/2//ID/11112//NA/XIN SHI JI 208//LT/-9.165//LG/-145.617//DA/20220527//TI/0536//ER//

33. In the coming months the Secretariat will be working with individual CCMs to begin submitting manual reports in NAF to WCPFC VMS.

CCM access to WCPFC VMS data including related reports

34. The main way for authorized CCM users to access WCPFC VMS data is by logging into the WCPFC Trackwell VMS system. The WCPFC also arranges for the WCPFC Trackwell VMS system to regularly send to specified email address/es txt files containing the WCPFC VMS data that they are permitted to view in Trackwell. The Secretariat and at least two CCM users presently use an Application Programming Interface (API) to source WCPFC VMS data from WCPFC Trackwell VMS system. The WCPFC also provides certain reports that are accessible by all authorized CCM users through the CCM portal on the WCPFC website.

Users of WCPFC Trackwell System and Provision of High Seas VMS Data in support of MCS Activities

35. Flag CCMs have access to their flagged vessels through WCPFC Trackwell VMS. As per WCPFC9 decision authorized MCS entities of CCMs may request coverage by the Commission VMS of their national waters under Article 24(8) decision, and once enabled can view through their WCPFC Trackwell login the relevant data for all vessels reporting to the Commission VMS when within their EEZ/s.

36. In terms of high seas VMS access, Authorised MCS entities of other CCMs may request to access certain WCPFC VMS data through non-public domain data requests pursuant to paragraphs 19 – 25 of the *2009 Rules and Procedures for the Protection, Access to, and Dissemination of High Seas Non-Public Domain Data and Information Compiled by the Commission for the Purpose of Monitoring, Control or Surveillance (MCS) Activities and the Access to and Dissemination of High Seas VMS Data for Scientific Purposes (Data RaP 2009)*.

37. Nineteen (19) CCMs have requested access to 100 nautical mile high seas buffer zone, some on an ongoing basis, and others for the purposes of specific MCS activities. Access to the EHSPSMA Commission VMS data has been provided to the adjacent CCMs: Cook Islands, French Polynesia and Kiribati. Some FFA members have nominated the FFA Regional Fisheries Surveillance Centre in Honiara, Solomon Islands, as one of their MCS entities to receive Commission VMS data on their behalf.

38. There are now 161 users from 35 CCMs, however only 44 users from 13 CCMs are actively using the system. A breakdown of when user accounts were created are shown below in **Table 11**

Table 11. Number of VMS Users by CCMs.

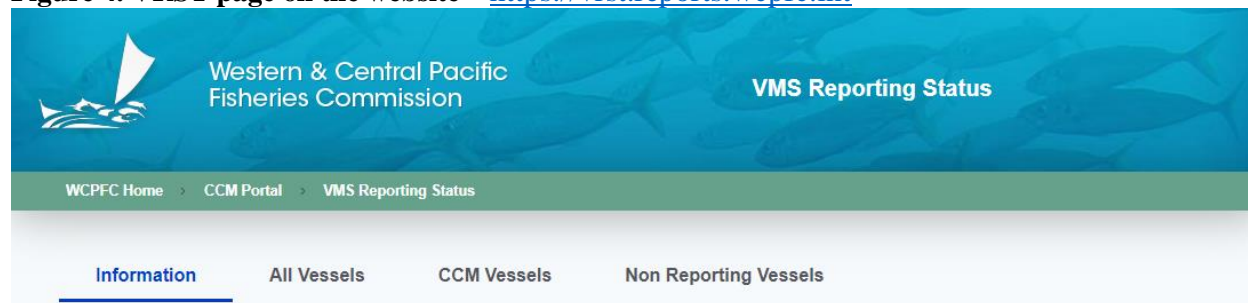
CCM / approved user	Accounts created	Accounts de-activated	Current users
Australia	24	9	15
Canada	7	2	5
China	6		6
Cook Islands	3		3
Ecuador	1		1
European Union	10		10
Fiji	1		1
France	12	5	7
Federated States of Micronesia	5	1	4
Indonesia	10		10
Japan	5		5
Kiribati	1		1
Korea	9		9
Liberia	1		1
Mexico	1		1
Marshall Islands	1		1
New Caledonia	12		12
Niue	1		1
Nauru	2		2
New Zealand	63	32	31
Panama	1		1
Philippines	12	6	6
Palau	2		2
Papua New Guinea	1		1
Samoa	2		1
Solomon Islands	1		1
El Salvador	1		1
Thailand	1		1
Tokelau	2		2
Tonga	1		1
Tuvalu	1		1
Chinese Taipei	4		4
United States	7	1	6
Vietnam	1		1
Vanuatu	6		6
Total	218	56	161

VMS Reporting Status tool (VRST)

39. The VMS reporting status tool is presently live and available to all authorized users of CCMs at this link: <https://vrst.reports.wcpfc.int>

40. The VRST provides the authorized CCM contact a daily snapshot of whether each CCM vessel on the Record of Fishing Vessels is meeting its Commission VMS requirements. The VRST is updated each day at 1am UTC. There are currently four parts to the VRST (see Figure 4 below):

Figure 4. VRST page on the website – <https://vrst.reports.wcpfc.int>



1. **Information:** The “Information” tab of the VRST provides explanatory information about the VRST.
2. **All Vessels:** The “All Vessels” tab of the VRST is in response to the WCPFC12 task and provides the latest WCPFC VMS reporting status for every vessel on the Record of Fishing Vessels (RFV).
3. **CCM Vessels:** The “CCM Vessels” tab of the VRST lists only RFV vessels flagged to the CCM, viewable only by that CCM’s authorized contact. It provides CCMs with a daily snapshot of whether each of their vessels on the RFV is meeting its Commission VMS requirements. If a vessel is not on the FFA Good Standing List, the VRST provides an indication of whether WCPFC has completed the necessary steps to activate the vessels MTU to report to the Commission VMS, and if so the VRST provides a generic current vessel status (e.g., “OK” or “STOP”) for each of their vessels and a daily VMS-reporting status (how many position reports are transmitted by each vessel each day for the past 31 days).
4. **Non Reporting Vessels:** The “Non-Reporting Vessels” tab of the VRST is a subset of the CCM Vessels tab list providing a list of vessels from which the expected VMS data is not being received. For each vessel that is not reporting to the WCPFC VMS, authorized CCM users are able to update the status to ‘In Port’ or ‘Outside the Convention Area’ or ‘Within flag CCM EEZ’ and the date the status took effect. When VMS data is received by the WCPFC VMS, the status will be automatically reset to ‘OK’.

41. Figure 5 below is a sample of the VRST where a Vessel Status is marked as STOP when no position reports received more than 9 hours from the last position.

Figure 5.

Active VTAF with WCPFC	Date of Last Update	Vessel Status	Channel ID	14-Sep	13-Sep	12-Sep
Yes	14-Sep-22	STOP	INMARSAT STDC	2	0	0
Yes	14-Sep-22	STOP	HALIOS	3	3	4
Yes	14-Sep-22	STOP	INMARSAT STDC	6	19	21
Yes	14-Sep-22	STOP	ARGOS	6	0	0
Yes	14-Sep-22	STOP	PTSOG	11	14	4
Yes	14-Sep-22	STOP	INMARSAT STDC	4	0	0
Yes	14-Sep-22	STOP	INMARSAT STDC	9	12	12
Yes	14-Sep-22	STOP	HALIOS	6	18	12
Yes	14-Sep-22	STOP	INMARSAT STDC	1	0	1
Yes	14-Sep-22	STOP	INMARSAT STDC	6	0	0

42. CCMs are also able to download a copy of the relevant report in CSV format.

Reporting on Secretariat processes to identify and follow-up on VMS reporting issues

43. The Secretariat has implemented a workflow that tracks where the Secretariat have identified issues and have worked to resolve these issues related to the VMS reporting status of a vessel. The source of the issues may range from:

- i. CCM query – follow up on a query raised by a CCM about a vessel’s reporting status.
- ii. status.
- iii. FFA vs WCPFC MTU – If a vessel that has its MTU activated to report directly to WCPFC VMS is subsequently listed on the FFA Good Standing List, or if a vessel that was on the FFA Good Standing List is de-listed, VMS staff will take necessary steps to update the MTU Register accordingly. This is to avoid duplicate reporting by a vessel.
- iv. HSBI –a notification is received that a vessel has been inspected through the High Seas Boarding and Inspection Scheme and/or a VMS-related issue is raised by a member conducting HSBI
- v. Transshipment Advice (TSER) – a high seas transshipment notification is received by the Secretariat, but the vessel is not reporting to WCPFC VMS
- vi. Vessel Not Reporting – a vessel has stopped reporting.
- vii. Vessel Reporting Status (VRST) – if there is another MTU-related issue identified from VRST, that is not related to non-reporting.
- viii. WCPFC Vessel on MTU Register – there is a difference between the WCPFC MTU Register active MTU and the channel that TrackWell has recorded the receipt of the WCPFC VMS data.

44. Table 12 below show the count of vessels with MTU-related issues that the WCPFC VMS staff have worked through to resolve from 1st August 2021 to 31st July 2022. The Table provides a breakdown by MTU type in relation to WCPFC VMS vessel operations.

Table 12. VMS related issues by MTU type from 01 August 2021 to 31 July 2022

Approved MTU Type	CCM query	FFA Query	FFA vs WCPFC MTU	HSBI	Manual Reporting	MTU to be Deactivate	Transshipment Advice (TSER)	Vessel Not Reporting	Total
750VMS [Faria – Watchdog]		3	5			1			9
750VMS SB [Faria – Watchdog]	2	1	1	1					5
CLS TRITON [CLS OROLIA]	1	4	21		1	1		3	31
CLS TRITON ADV [CLS OROLIA]	3	19	56	5	5	1	15	5	109
FELCOM15 [Furuno]	1								1
FELCOM16 [Furuno]	1	3	24	1	3	8		1	41
FELCOM18 [Furuno]	1		1			1			3
FELCOM19 [Furuno]			1	1					2
FVT [CLS SEIMAC]							1		1
iFleetONE [Addvalue]				1					1
JUE-75C [JRC]	1		3			1		1	6
JUE-85 [JRC]	1								1
JUE-87 [JRC]								1	1
JUE-95VM [JRC]	3		7		3	3	2		18
LEO [CLS ELTA]	8	18	6	3	1	1	5	1	43
MAR GE [CLS SERPE-IESM]			2		1	1			4
MAR GE V2 [CLS MARTEC SERPE-IESM]		10	5		2		1	1	19
MAR GE V3 [CLS MARTEC SERPE-IESM]		8							8
Sailor 6140 [Thrane & Thrane]		22	32	3	1	6	10	4	78
Sailor 6150 [Thrane & Thrane]		2	5	1		4	3	2	17
SKYMATE I1500 VMS [SkyMate Inc.]		1							1
SKYMATE m1600 [SkyMate Inc.]		1							1
Skywave IDP-690 [ORBCOMM/Skywave]			1						1
Thorium TST-100 [CLS KENWOOD]	4	10	64	4	1		7	8	98
TNL 7001 [Trimble]			2				2		4
TT-3020C [Thrane & Thrane]				1					1
TT-3022D [Thrane & Thrane]	2	4	11	4			4		25
TT-3026 [Thrane & Thrane]		3	1				1		5
TT-3026D [Thrane & Thrane]		2				1		1	4
TT-3026S [Thrane & Thrane]	1	2	9	2			3		17
TT-3027M [Thrane & Thrane]			2						2
TT-3027S [Thrane & Thrane]			1						1
Total	29	113	260	27	18	29	54	28	558

Update on Secretariats work to facilitate electronic (online) submission and processing of new and updated VTAFs and MTU audit records

45. The Secretariat confirms that work is underway to complete the necessary work to migrate the Secretariats internal MTU Management process from SharePoint to the Drupal Platform. This work is expected to include a mechanism that will facilitate electronic (online) submission and processing of new and updated VTAFs and MTU Audit records.

46. It is expected that feature will be available in early 2023, and further updates will be provided to CCMs intersessionally.

Security and Integrity of the Commission VMS

47. VMS SSP 6.10 requires the integrity of the Secretariat’s VMS data will be verified annually by qualified personnel exterior to the Commission Secretariat staff. Deloitte Touche Tohmatsu Limited was contracted to carry out the audit last year and the results of the audit were provided to the Secretariat this year. The report on the 2021 audit will be posted for authorized CCM users as a non-public domain document as WCPFC-TCC18-2022-RP09.

48. An additional paper WCPFC-TCC18-2022-23 presents a proposed approach to improve the frequency and quality of the review process and ensure the integrity of VMS data for consideration by TCC18.

Direct/simultaneous VMS reporting by vessels/ALCs reporting to the WCPFC VMS.

49. The VMS SWG recommended to WCPFC18 to task TCC18 to consider future work to enable direct/simultaneous VMS reporting by vessels ALC/MTUs to WCPFC VMS. To date since WCPFC18, no CCMs made arrangements with the Secretariat for direct/simultaneous reporting of their vessels authorized to operate in the Convention Area, however some CCMs already have in place direct/simultaneous through certain MCSPs.

50. The following table shows some MCSPs that provide direct/simultaneous reporting to their primary client and WCPFC VMS:

Table 13. MCSPs that provide direct/simultaneous and the number of MTUs reporting.

MCSP	AUS	CHN	JPN	PHL	TWN	USA
ARGOS		11	51	78		
FARIA		1		7		3
SKYMATE						29
ORBCOMM/Skywave	2				33	

Argos – contract with the MTU owners. Copy of the data provided Free Of Charge to the Commission.

Faria – Where the Secretariat is not the primary account holder copy of the date is provided at a cost.

Skymate and Orbcomm.Skymate – direct/simultaneous reporting is provided at no cost.

Secretariat observations on WCPFC VMS reporting gaps

51. The Secretariat observes that commonly WCPFC VMS reporting gaps are associated with the use of DNID based MTUs, DNIDs can only be programmed for the Ocean Region which the MTU is logged in, in some cases vessels at the time of activations are logged in to other Ocean regions. Some MTUs can have up to 64 DNID slots but only a number of the top slots can be programmed to report automatically if WCPFC DNID downloaded successfully is below the programmable slots then the vessel will not be reporting at a set interval. Access to DNID in the MTUs should be restricted to service technicians only so as not to tamper with the DNID settings or disable activated DNIDs. This should be checked during boarding and inspection or when the conducting MTU audits

Figure 6. Typical DNID screen on the internal unit

No.	Act	DNID	LES	Subaddr	Member	Text
01	*	01000	002	000	235	
02	24h	01001	001	001	085	
03	STP	01002	102	002	215	
04		01003	131	003	033	
05	*	01004	202	004	227	
06	24h	01005	210	000	013	
07	STP	01006	302	001	079	
08		01007	304	002	089	

Sub address Data Network ID Member number using DNID

Mark '*' means activation. Ctrl+P: Print

52. With regards to whether there appears to be any relationship between how often MTUs are audited and CCM data reliability there is no evident relationship of this. The number of vessels that were not audited that are on manual reports is low and not specific to an MTU or an MCSP.

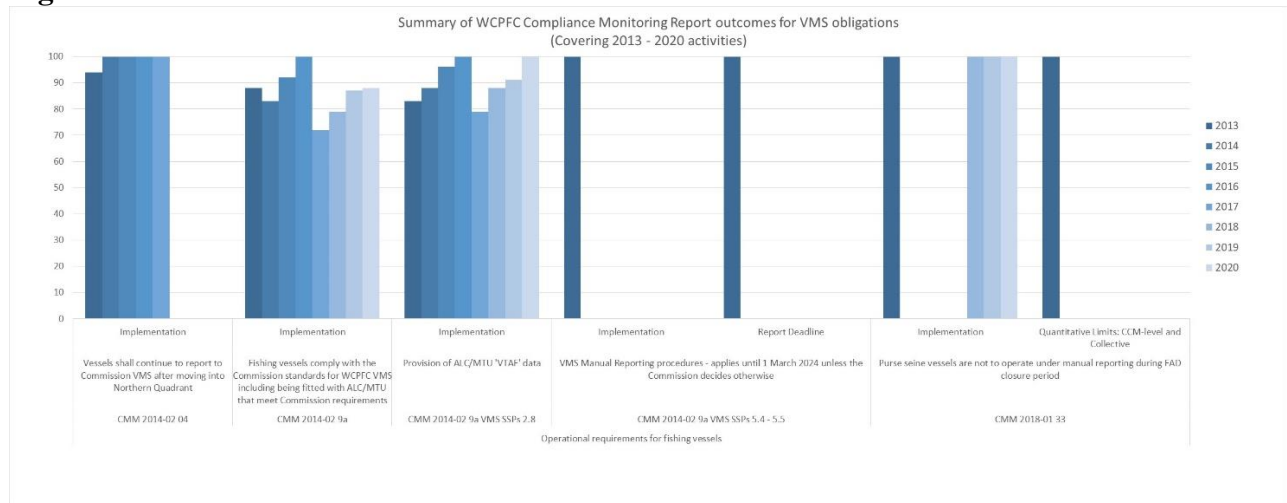
Table 14. Manual report from MTUs that have not been audited.

Approved MTU Type	CN	EU	JP	KR	PA	PH	TW	VU	TOTAL
CLS TRITON [CLS OROLIA]				1					1
CLS TRITON ADV [CLS OROLIA]								1	1
ELB2004 [SATLINK]		1							1
FELCOM15 [Furuno]			1						1
FELCOM16 [Furuno]			13						13
FELCOM18 [Furuno]		1							1
JUE-75C [JRC]			1						1
JUE-95VM [JRC]			3						3
MAR GE V2 [CLS MARTEC SERPE-IESM]						1			1
Sailor 6140 [Thrane & Thrane]	1				1		1		3
TT-3022D [Thrane & Thrane]	1								1
TT-3026S [Thrane & Thrane]	3								3
Total	5	2	18	1	1	1	1	1	30

Review of VMS implementation by applicable CCMs under the Compliance Monitoring Scheme (CMS) 2013 – 2020

53. Figure 6 below provides an overview of the outcome of the evaluation of VMS-related provisions under the CMS over recent years. The Commission has reviewed the VMS related provisions annually since 2014 for reporting year 2013 to 2020. Figure 4 shows general and incremental improvements in the reported outcomes in CMS for applicable CCMs of Commission VMS implementation under CMM 2014-02 or its earlier iteration.

Figure 6.



Administrative notes

54. General information on the WCPFC VMS, including copies of VTAF forms, are publicly available at this link: <https://www.wcpfc.int/vessel-monitoring-system>. This includes an updated guideline on WCPFC VMS requirements as at the first quarter of 2018 (as requested by TCC13 Summary Report paragraph 143)

55. CCMs should check reporting status of their flag vessels on the VRST (<https://vrst.reports.wcpfc.int/vms-transmission-report>) and provide update.

56. Note that ARGOS MTUs (MAR GE, MAR GE V2, and MAR GE V3) will be phased out in January 2023. CCM should commence replacing these MTUs.

57. To assist the Secretariat with keeping track of VMS-related correspondence, please send VMS-related emails with cc to VMSHelpdesk@wcpfc.int

Recommendations

58. TCC18 is invited to note the report and discuss the activities of the Commission VMS.

WCPFC Approved List of ALC/MTU as at 31 July 2022

Model / Approved MTU Type	Manufacturer	Comm System	Service Provider
iFleetONE	Addvalue	INMARSAT BGAN	Addvalue
RSS405A	Anritsu	INMARSAT STDC	Speedcast
LEO	CLS ELTA	HALIOS	CLS
Thorium TST-100	CLS KENWOOD	HALIOS	CLS
CLS TRITON	CLS OROLIA	HALIOS	CLS
CLS TRITON ADV	CLS OROLIA	HALIOS	CLS
750VMS	Faria - Watchdog	FARIA_WATCHDOG	Speedcast
750VMS SB	Faria - Watchdog	FARIA_WATCHDOG	Speedcast
750VMS W/VTerm	Faria - Watchdog	FARIA_WATCHDOG	Speedcast
FELCOM10	Furuno	INMARSAT STDC	Speedcast
FELCOM12	Furuno	INMARSAT STDC	Speedcast
FELCOM15	Furuno	INMARSAT STDC	Speedcast
FELCOM16	Furuno	INMARSAT STDC	Speedcast
FELCOM18	Furuno	INMARSAT STDC	Speedcast
FELCOM19	Furuno	INMARSAT STDC	Speedcast
JUE-75C	JRC	INMARSAT STDC	Speedcast
JUE-75C-FFA	JRC	INMARSAT STDC	Speedcast
JUE-85	JRC	INMARSAT STDC	Speedcast
JUE-87	JRC	INMARSAT STDC	Speedcast
JUE-95C	JRC	INMARSAT STDC	Speedcast
JUE-95VM	JRC	INMARSAT STDC	Speedcast
iTrac101B (i Trac II)	MetOcean Telematics	Iridium SBD	MetOcean Telematics
Insight X2 EMTU	Nautic Alert	IRIDIUM	Nautic Alert
ORBCOMM ST6100	ORBCOMM/Skywave	INMARSAT ISATDATA PRO	Skywave
Skywave IDP-690	ORBCOMM/Skywave	PTSOG	Skywave
RomTrax Wifi	Rom Communications	Iridium SBD	Rom Communications
H1622D	Sailor	INMARSAT STDC	Speedcast
BB3	SASCO	Iridium (mini LEO)	SASCO
BB5	SASCO	Iridium (mini LEO)	SASCO
ELB 2000	SATLINK	INMARSAT STDC	Speedcast
ELB2004	SATLINK	INMARSAT STDC	Speedcast
ELB2020	SATLINK	INMARSAT ISATDATA PRO	Speedcast
NERA MINI-C	SATLINK	INMARSAT STDC	Speedcast
SKYMATE I1500 VMS	SkyMate Inc.	SKYMATE-WCPFC	SkyMate Inc.
SKYMATE m1600	SkyMate Inc.	SKYMATE-WCPFC	SkyMate Inc.
Sailor 3027D	Thrane & Thrane	INMARSAT STDC	Speedcast
Sailor 6140	Thrane & Thrane	INMARSAT STDC	Speedcast
Sailor 6150	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3020C	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3022D	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3026	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3026D	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3026S	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3027M	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3027S	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3062D	Thrane & Thrane	INMARSAT STDC	Speedcast
TNL 7001	Trimble	INMARSAT STDC	Speedcast
TNL 7002	Trimble	INMARSAT STDC	Speedcast
TNL 8001	Trimble	INMARSAT STDC	Speedcast
TNL7005	Trimble	INMARSAT STDC	Speedcast

Number of vessels that Fished in 2021 that have not had a MTU Audit Report submitted to the Secretariat through the MTU Audit Inspections list.

Approved MTU Type	AU	CA	CN	CW	EU	FJ	JP	KR	NC	PA	PH	TW	US	VU	TOTAL
750VMS [Faria - Watchdog]											3				3
750VMS SB [Faria - Watchdog]											1				1
BB5 [SASCO]		2													2
CLS TRITON [CLS OROLIA]			1	1	1					4	2	3	7		19
CLS TRITON ADV [CLS OROLIA]	2		18		1			2		4	1	30	3	4	65
ELB 2000 [SATLINK]					5										5
ELB2004 [SATLINK]					3										3
FELCOM12 [Furuno]			3				1		1						5
FELCOM15 [Furuno]			1		1		2								4
FELCOM16 [Furuno]			1			1	16	2		1					21
FELCOM18 [Furuno]			1		2				1						4
FELCOM19 [Furuno]					2		3								5
iTrac101B (i Trac II) [MetOcean Telematics]		1													1
JUE-75C [JRC]			1												1
JUE-85 [JRC]							1								1
JUE-87 [JRC]			1		1		4			2					8
JUE-95VM [JRC]							11								11
LEO [CLS ELTA]				5						2	2	10	5	1	25
MAR GE [CLS SERPE-IESM]							8								8
MAR GE V2 [CLS MARTEC SERPE-IESM]							34				6				40
MAR GE V3 [CLS MARTEC SERPE-IESM]			11				2				4				17
ORBCOMM ST6100 [ORBCOMM/Skywave]	2														2
RomTrax Wifi [Rom Communications]		1													1
Sailor 3027D [Thrane & Thrane]	4		10		1										15
Sailor 6140 [Thrane & Thrane]			18		1					10		18			47
Sailor 6150 [Thrane & Thrane]	6		1						1	2		4			14
SKYMATE I1500 VMS [SkyMate Inc.]													1		1
SKYMATE m1600 [SkyMate Inc.]													1		1
Skywave IDP-690 [ORBCOMM/Skywave]												11			11
Thorium TST-100 [CLS KENWOOD]		1	1					2		5	3	1	5		18
TNL 7001 [Trimble]			1												1
TNL7005 [Trimble]	1														1

Approved MTU Type	AU	CA	CN	CW	EU	FJ	JP	KR	NC	PA	PH	TW	US	VU	TOTAL
TT-3020C [Thrane & Thrane]	1														1
TT-3022D [Thrane & Thrane]	11		7									7			25
TT-3026 [Thrane & Thrane]					1							4			5
TT-3026D [Thrane & Thrane]	3														3
TT-3026S [Thrane & Thrane]			8									12			20
TT-3027S [Thrane & Thrane]			1												1
Total	30	5	85	6	19	1	82	6	3	30	22	100	22	5	416
Active on MTU Register	37	6	417	7	23	13	502	123	3	100	257	595	179	64	2,326
<i>Percentage of vessels MTU not audited</i>	81%	83%	20%	86%	83%	8%	16%	5%	100%	30%	9%	17%	12%	8%	18%